

**A. Title:**

Application for Permit for Scientific Purposes under the Endangered Species Act of 1973.

**B. Species:**

Puget Sound ESU: Chinook

Lower Columbia River ESU: Chinook, Steelhead

Columbia River ESU: Chum

Lower Columbia River/South West Washington ESU: Coho

Puget Sound/Strait of Georgia ESU: Coho

**C. Date of Permit Application:**

February 16, 2004

**D. Applicant Identity:**

1. Todd Welker, Fish and Wildlife Biologist 3
2. Washington State Department of Natural Resources
3. 1405 Rush Rd., Chehalis, WA. 98532
4. Phone: 360-748-2383  
Fax: 360-748-2387  
Email: [Todd.Welker@wadnr.gov](mailto:Todd.Welker@wadnr.gov)
5. Principle contact is same as above.

**E. Information on Personnel, Cooperators, and Sponsors.**

1. Todd Welker is the principle investigator, and will also act as a Field Supervisor. Allen Estep will be a field supervisor. He has the same address and phone number as above. His email address is: [Allen.Estep@wadnr.gov](mailto:Allen.Estep@wadnr.gov). Todd has been a professional biologist for 12 years and has conducted electro shocking and stream surveys for approximately 8 years. Allen Estep has been a professional biologist for 3 years and has conducted these types of surveys for all 3 of those years.
2. Todd and Allen will be the only employees conducting these surveys. There may at times be a forester on site observing, but they will not be actively surveying with Todd and Allen.
3. There are no sponsors associated with this activity. The funding comes solely from within our own department. This activity is being conducted in association with our timber sales program.
4. Not applicable. Todd and/or Allen will conduct all work.
5. It is not anticipated that any fish will die as a result of our work. However, in the unusual event that this does occur, the dead specimen will be left on site unless otherwise directed by this permit.
6. Not applicable. There will be no transportation or holding of species.

**F. Project Description, Purpose, and Significance:**

1. The Department of Natural Resources (DNR) has an approved Habitat Conservation Plan (HCP) with the United States Department of Fish and Wildlife Services (USFWS) and the National Marine Fisheries Service (NMFS), which was signed in 1997. The HCP covers all DNR-managed forest lands that lie within the range of the northern spotted owl (all of Western Washington and the eastern slopes of the Cascades), excluding

those lands designated as urban or leased for commercial, industrial, or residential purposes and those lands designated as agricultural. All DNR management activities on these lands are covered.

DNR entered into this HCP to provide certainty to the trust beneficiaries of the state of Washington. It allows DNR to manage in a prudent manner, minimize the risk of loss, and using sound principles that will preserve the productivity of the trusts in perpetuity while striving to provide the most substantial support to the beneficiaries over the long term. The HCP allows the incidental take on DNR-managed lands of northern spotted owls, marbled murrelets, and other listed upland species, and, on the west side of the Cascade Range, selected other species if they become listed (i.e. salmonids). The HCP is a 70-100 year commitment.

All fresh water species of salmonids require moderate stream flows; cool, well oxygenated, unpolluted water; low suspended-sediment load; adequate food supply; and structural diversity provided by submerged large woody debris. Well functioning riparian ecosystems are necessary to satisfy these habitat needs. In support of the HCP commitment to provide these habitats, DNR must correctly identify stream types. On occasions, the use of an electro shocker is needed to accurately type these streams. The streams that are shocked are assumed to not have fish; however, on occasion, we do find various species of fish. After streams are correctly typed, then the appropriate Riparian Management Zone (RMZ) is applied. DNR has been conducting these types of surveys in various parts of the state for several years. With the approval of this permit, DNR plans to potentially extend those surveys into the ESUs listed in section B of this application. By correctly typing these streams, resident as well as migrating fish populations will benefit by potentially having larger RMZ's.

2. DNR entered into this HCP to provide certainty to the trust beneficiaries of the state of Washington. It allows DNR to manage in a prudent manner, minimize the risk of loss, and using sound principles that will preserve the productivity of the trusts in perpetuity while striving to provide the most substantial support to the beneficiaries over the long term. The HCP allows the incidental take on DNR-managed lands of northern spotted owls, marbled murrelets, and other listed upland species, and, on the west side of the Cascade Range, selected other species if they become listed (i.e. salmonids). The HCP is a 70-100 year commitment.

The HCP states that the principal function of the riparian buffer is protection of salmonid habitat. The width of riparian buffers on fish bearing streams shall be approximately equal to the site potential tree height in a mature conifer stand or 100 feet, whichever is greater. This prescription should result in average buffer widths between 150 and 160 feet (many times this average is 170-190 feet). The width of this riparian

buffer shall be measured as the horizontal distance from, and perpendicular to, the outer margin on the 100-year floodplain. The HCP goes on to say that for all practical purposes, stream typing will be examined or verified in the field whether they were typed before or after 1992.

In order to comply with the HCP, DNR must comply with the stream typing guidelines established by the Washington State Forest Practices Board (WAC 222-16-030). Most of the time these streams are typed using physical characteristics, such as basin acres, stream gradient and width. However, on occasion there are times when the stream cannot be correctly typed using those criteria. In those instances, DNR needs to have the ability to conduct electro-shocking surveys to determine fish presence. The basis for this application is to be granted permission to conduct these surveys in the above-mentioned ESUs.

3. At this time, this project will only satisfy the goals of this particular project. There are no plans to conduct long-term research projects under this proposal. This project is for site specific planning. The results of these surveys, however, will be long term. For example: If we determine by electro shocking that a stream is fish bearing, then that stream will be considered fish bearing in the future. This information is turned into DNR's Forest Practices and the Washington State Department of Fish and Wildlife (WDFW). The information is maintained in the database.

DNR's Forest Practices, in conjunction with private stakeholders and the WDFW, is currently working on a stream typing model that should be completed and implemented with the next year. Past and present electro-shocking survey information was used to help define the parameters of fish bearing streams used in the model.

When a stream is electro-shocked and found to contain fish, an update form is sent to Forest Practices. They then notify WDFW, tribes, local governments and concerned landowners. These people are given a 30-day comment period. After hearing no comments, the stream is entered into the database and considered a fish-bearing stream now and in the future.

4. There are no other projects similar to this project occurring on State Lands. However, private landowners have the right to conduct electro-shocking surveys on their property, as per WAC 222-16-030. In general we don't share this information because they are conducting surveys on streams located on their property and we are doing the same on our property. On occasion we share the information if the stream is located on a property line or has different ownership throughout the length of the stream.
5. Our project does not intentionally target listed species. I would estimate that on average, 90-95% of the fish we collect by use of the electro shocker are resident cutthroat trout. We are not anticipating on collecting

large numbers of listed species. We always use shocking as our last option. We conduct stream surveys without the use of an electro shocker first, and then if necessary, we use the shocker. Over the past five years, on average, I only shocked six to seven streams per year; however, that number may fluctuate up or down over the next few years. I always try for visual sightings prior to shocking, meaning that I watch under logs, cut banks or other habitat features first. I try using oatmeal in the slower moving pools to entice the fish. Again, shocking is only a last resort.

## **G. Project Methodology**

1. The dates for this project would be from March 1 to July 15 of each year. These dates coincide with regulations from the Washington State Forest Practices Board under WAC 222-13-030. The ending date may be extended due to weather conditions, but typically doesn't extend past August 1.

At this time, it is unknown how long DNR will need the ability to conduct these surveys. With this application, DNR is requesting a five-year permit. With the new stream typing model coming out, at this time, it is unknown if electro-shocking will be allowed. In addition, the possibility exists that DNR State Lands may negotiate with the federal agencies to not convert to the new stream typing model and return to the stream typing rules when the HCP was signed. So, there is a possibility that DNR will not be conducting electro-shocking surveys after the 2004 survey season; however, it is also possible that DNR will conduct these surveys into the future. If after the 2004 shocking season the rules do not allow us to use electro-shocking surveys, then we will void this permit at that time.

2.
  - a. Once a fish is detected, it will be netted, identified and then released to a calm pool of water until it is able to swim away on it's own. The fish will not be handled and no drugs will be used.
  - b. Not applicable. There will be no tags attached.
  - c. Not applicable.
  - d. In general, the holding time is about one minute. As mentioned previously, once the fish are shocked they are netted, identified and placed in a calm pool of water until they are fully recovered and are able to swim on their own. Humans never touch the fish.
  - e. There will be no samples taken from any species.
3. It is possible that a fish could be injured or killed while using the electro Shocker. In my experience I have only seen one resident cutthroat trout being killed during the surveys. Most of the time the fish are stunned for a

minute or so and then are able to swim on their own after a brief recovery time. The rules for verifying if a stream is fish bearing or not does not mean that the species has to be identified. Once the shocking takes place and a fish is observed, the power is shut down. Seeing a “flash” from a fish is all that is required to correctly type a stream. However, sometime by the time the fish is seen it is already stunned and needs to be netted and placed in a pool for recovery.

I have read and reviewed the NMFS electro fishing guidelines. DNR will abide by these guidelines while conducting electro-fishing surveys.

#### H. Descriptions and Estimates of Take:

1. See the table below for species, ESUs and expected take/capture rates. It is unlikely to take any listed species while conducting these surveys; however, it is possible. I would estimate that take would never exceed one of each listed fish species within these ESU's (Steelhead, Chum, Coho and Chinook). If fish are encountered in these surveys they will most likely be resident cutthroat trout.

ESU	SPECIES	# EXPECTED CAPTURE	# EXPECTED TAKE
Puget Sound	Chinook (O. tshawytscha)	10	1
Lower Columbia	Chinook (O. tshawytscha)	10	1
Lower Columbia. River	Steelhead (O. mykiss)	10	1
Columbia River	Chum (O. keta)	10	1
Puget Sound/ Strait of Georgia	Coho (O. kisutch)	10	1
Lower Columbia River/ SW Washington	Coho (O. kisutch)	10	1

**NOTE:** The above table predicts the maximum number of take for each species. For this table, take is defined as “killing”.

2. All stream sampling will take place on state owned lands located within the above-mentioned ESUs. At this time, only a few specific streams have been selected to receive an electro-shocking survey during the 2004 season. There may be others included at a later date, but that information is unknown at this time. Each spring we will decide which streams need to be shocked in support of our timber sales program.

Streams located on State Lands within the following Township (T) and Ranges (R.):

- T10North, R01East, WM. These streams flow into the Cowlitz River, and then eventually flow into the Columbia River (Lower Columbia ESU's).
- T06North, R02East, WM. These streams flow into the Lewis River, and then eventually flow into the Columbia River (Lower Columbia ESUs).
- T10North, R05West, WM. These streams flow into the Elochoman River, and then eventually flow into the Columbia River (Lower Columbia River ESUs).

Again, these are streams that are known to be scheduled for an electro-fishing survey in 2004. Other streams may be included as the need arises.

3. The following list shows the ESUs that DNR wishes to include in this permit. The list also shows the listed species in which DNR may encounter:

Puget Sound ESU: Chinook

Lower Columbia River ESU: Chinook, Steelhead

Columbia River ESU: Chum

Lower Columbia River/South West Washington ESU: Coho

Puget Sound/Strait of Georgia ESU: Coho

- 4.

<b>Number of individuals captured and handled</b>	<b>Species and/or Population and/or ESU</b>	<b>Life Stage</b>	<b>Number of individual indirect mortality</b>	<b>Take Activity Category</b>	<b>Location</b>	<b>Date(s)</b>
<b>10</b>	<b>Puget Sound ESU (Chinook)</b>	<b>Juvenile</b>	<b>1</b>	<b>Capture and handle</b>	<b>See below</b>	<b>March-July</b>
<b>10</b>	<b>Lower Columbia ESU (Chinook)</b>	<b>Juvenile</b>	<b>1</b>	<b>Capture and handle</b>	<b>See below</b>	<b>March-July</b>
<b>10</b>	<b>Lower Columbia River ESU (Steelhead)</b>	<b>Juvenile</b>	<b>1</b>	<b>Capture and handle</b>	<b>See below</b>	<b>March-July</b>
<b>10</b>	<b>Columbia River ESU (Chum)</b>	<b>Juvenile</b>	<b>1</b>	<b>Capture and handle</b>	<b>See below</b>	<b>March-July</b>
<b>10</b>	<b>Lower Columbia River/Southwest Washington ESU (Coho)</b>	<b>Juvenile</b>	<b>1</b>	<b>Capture and handle</b>	<b>See below</b>	<b>March-July</b>

<b>Number of individuals captured and handled</b>	<b>Species and/or Population and/or ESU</b>	<b>Life Stage</b>	<b>Number of individual indirect mortality</b>	<b>Take Activity Category</b>	<b>Location</b>	<b>Date(s)</b>
<b>10</b>	<b>Puget Sound/Strait of Georgia ESU (Coho)</b>	<b>Juvenile</b>	<b>1</b>	<b>Capture and handle</b>	<b>See below</b>	<b>March-July</b>

The above chart does not include sex because that is not known at this time. The locations will be state owned lands that lie within the ESUs. With the exception of streams listed in H (2), the exact streams to be electro-shocked will are yet to be determined.

5&6. As shown in the above charts, DNR is anticipating on capturing and handling no more than 10 individual fish per species per ESU. With that, DNR does not expect to kill any listed fish. However, on occasion, a fish may die for various reasons. This has only happened to me twice since I have been conducting these surveys. To be conservative, I estimate that we will kill no more than one fish from each species per ESU per year--at the absolute maximum. Again, it is not expected that any fish will die, but just to be on the safe side, I made a higher estimate.

#### **I. Transportation and Holding**

This section does not apply due to the fact that no species will be transported or held. The fish will not leave the stream.

#### **J. Cooperative Breeding Program:**

No fish will be captured and transported so it is not possible to participate in a cooperative breeding program. I am willing to contribute data to a breeding program if asked to do so.

#### **K. Previous or Concurrent Activities Involving Listed Species:**

I have not had the need to obtain a permit from NMFS in the past. The DNR has in the past had a permit for the upper Columbia ESU. This was not my area of responsibility so I don't have any information regarding that permit.

#### **K. Certification**

"I hereby certify that the foregoing information is complete, true and correct to the best of my knowledge and belief. I understand this information is submitted for the purpose of obtaining a permit under the Endangered Species Act of 1973 (ESA) and regulations promulgated thereunder, and that any false

statement may subject me to the criminal penalties of 18 U.S.C. 1001, or to the penalties under the ESA.”

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

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